ABSTRACT OF THE DISCLOSURE

An optical displacement sensor comprises a surface emitting laser light source, a scale and a photosensor. The surface emitting laser light source emits a light beam having a predetermined shape. The scale is displaceable in such a manner as to cross the light beam emitted from the surface emitting laser light source and has a diffraction grating of a predetermined period formed thereon for forming a diffraction interference pattern from the light beam. The photosensor receives a predetermined portion of the diffraction interference pattern. The photosensor includes light intensity detecting means comprised of a plurality of light receiving areas arranged apart from one another in a pitch direction of the diffraction interference pattern on a light receiving surface at intervals of $np1(z1+z2)/z1$ where z1 is a distance between a light-beam emitting surface of the surface emitting laser light source and a surface on which the diffraction grating is formed, z2 is a distance between the surface on which the diffraction grating is formed and the light receiving surface of the photosensor, p1 is the pitch of the diffraction grating on the scale, and n is a natural number.